NTSB Perspective on Mishap Investigation

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OVERVIEW

- NTSB organization/function
- medical aspects of NTSB investigations
- NTSB cases/discussion

NTSB Organization/Function

- U.S. regulations
- conduct of investigations
- differences between major and regional investigations
- NTSB authority
- international investigations

NTSB Responsibility

49 CFR 831.2 Responsibility of Board.

(a) Aviation. (1) The Board is responsible for the organization, conduct and control of all accident investigations involving civil aircraft, or civil and military aircraft, within the United States, its territories and possessions …

NTSB Purpose

49 CFR 831.4 Nature of investigation.

Accident or incident investigations are conducted by the Board in order to determine the facts, conditions, and circumstances relating to each accident or incident and to ascertain measures which will best tend to prevent similar accidents or incidents in the future ...

NTSB Organization

49 CFR 800.2 Organization.

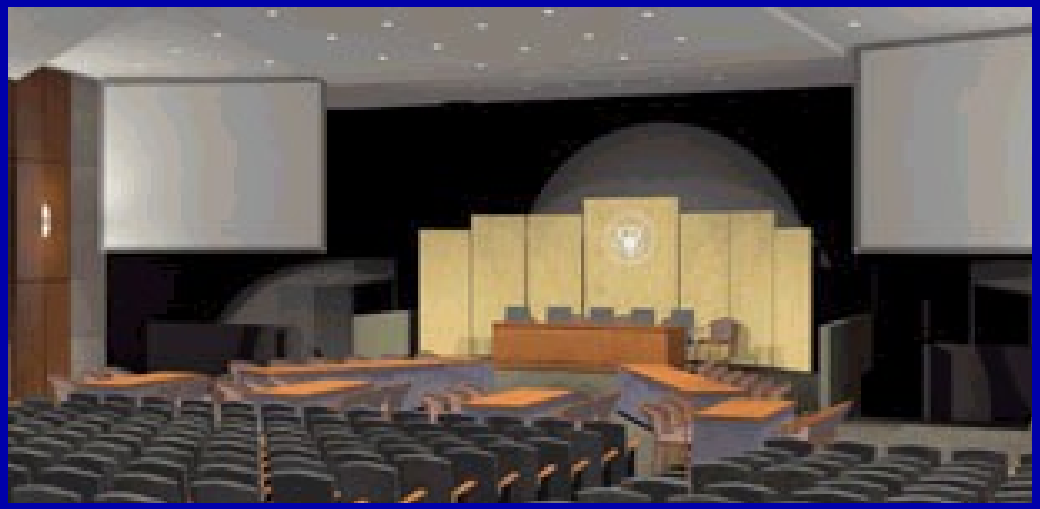
The Board consists of five Members appointed by the President with the advice and consent of the Senate. One of the Members is designated by the President as Chairman with the advice and consent of the Senate, and one as Vice Chairman ...

Conduct of Investigation

- full-time investigators
- party system - FAA, others
- public docket - remains open
- no time limit
- factual reports
- internal staff analysis

Conduct of Investigation

- conclusions/recommendations
- Board Meeting (not all)



Conduct of Investigation

major aviation investigations

- less than 10 per yea
- investigator-in-char
- extensive on-scene investigation
- multiple specialties
- multiple parties

Conduct of Investigation

regional aviation investigation

- 2000 per year
- single investigator
- often not on scene
- 2 or 3 parties
- responsible for all aspects of investigation

NTSB
Authority - General

49 CFR 831.9 (a) … The Safety Board may issue a subpoena, enforceable in Federal district court, to obtain testimony or other evidence. Authorized representatives of the Board may question any person having knowledge relevant to an accident/incident …

NTSB
Authority - Autopsies

49 CFR 831.10 The investigator-in-charge, on behalf of the Board, may order an autopsy or seek other tests of such persons as may be necessary to the investigation ...

Conduct of Investigation

international investigations

- International Civil Aviation Organization (ICAO): 185 nations
- Annex 13 (accident investigation)
- occurrence nation investigates, invites additional participation
- registry and operator nations each appoint representative

Medical Aspects of NTSB Investigations

- aeromedical staff
- aeromedical support
- aeromedical issues

NTSB Aeromedical Staff

- me

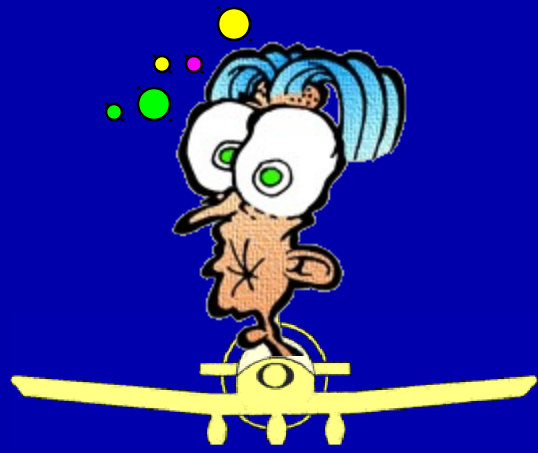
NTSB Aeromedical Support

- Survival Factors staff
- Human Performance staff
- Operational Factors staff
- biomechanics

Other Aeromedical Support

- U.S. Armed Forces Institute of Pathology
- U.S. Army, Navy, Air Force safety centers and aeromedical research labs
- FAA Civil Aeromedical Institute
- NASA

Aeromedical Issues



- **pilot impairment**
  - **review of medical records**
  - **review of autopsy reports**
  - **review of toxicology reports**
  - **interviews with doctors, family**
  - **analysis of pilot fitness**
  - **analysis of physical control issues**
  - **correlation with circumstances**

Aeromedical Issues

- **occupant survival**
  - review of hospital records
  - review of autopsy reports
  - analysis of impact forces, fir
  - analysis of restraint use

- **investigation safety**
  - biologic and chemical hazards, disease, dehydration, etc.

NTSB Cases of Aeromedical Interest

www.ntsb.gov
1-800-877-6799

- T-38 vs. Cessna: FTW90FA151A/B
- MD-80 at WAFB: CHI01IA211
- Beech Baron: MIA00FA166
- MD-88: NYC97MA005
- Learjet: DCA00MA005
  - CHI96IA157 (727)
  - Recs A-00-109 → -119
- Cargo DC-8: FTW98IA196
  - Recs A-01-14 and -15